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illustrated in FIGS. 15-22 has a line-in port at the end surface or tip 1706 of such extended portion.

Although the controls and connectors described above are discussed with reference to FIGS. 7-22, one skilled in the art will recognize that any of a variety of wireless headphone designs (e.g., shapes and dimensions) may be utilized in accordance with embodiments of the invention as appropriate to a particular application. The controls and/or connectors may be placed in similar locations no matter the exact shape of a headphone in alternate embodiments. Further, a grouping of controls and/or connections described as being located on a left earcup or a right earcup may be on the opposite earcup instead. Similarly, a single control or connection may be on the opposite earcup as described above. Many embodiments consider design and/or usability factors in the placement on the left or right earcup, the set of which controls to group together, or the distribution of controls to different locations. For example, it may be intuitive to place the power button near the power/charge indicator and/or the charge port. It may be functionally efficient to utilize the voice assistant control also as a call control. One skilled in the art will see the descriptions above as design principles and guidance to achieving additional implementations within the scope of embodiments of the invention.

V. Conclusion

The above discussions relating to playback devices, controller devices, playback zone configurations, and media content sources provide only some examples of operating environments within which functions and methods described below may be implemented. Other operating environments and configurations of media playback systems, playback devices, and network devices not explicitly described herein may also be applicable and suitable for implementation of the functions and methods.

The description above discloses, among other things, various example systems, methods, apparatus, and articles of manufacture including, among other components, firmware and/or software executed on hardware. It is understood that such examples are merely illustrative and should not be considered as limiting. For example, it is contemplated that any or all of the firmware, hardware, and/or software aspects or components can be embodied exclusively in hardware, exclusively in software, exclusively in firmware, or in any combination of hardware, software, and/or firmware. Accordingly, the examples provided are not the only ways to implement such systems, methods, apparatus, and/or articles of manufacture.

Additionally, references herein to “embodiment” means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one example embodiment of an invention. The appearances of this phrase in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. As such, the embodiments described herein, explicitly and implicitly understood by one skilled in the art, can be combined with other embodiments.

The specification is presented largely in terms of illustrative environments, systems, procedures, steps, logic blocks, processing, and other symbolic representations that directly or indirectly resemble the operations of data processing devices coupled to networks. These process descriptions and representations are typically used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art. Numerous specific details are set

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forth to provide a thorough understanding of the present disclosure. However, it is understood to those skilled in the art that certain embodiments of the present disclosure can be practiced without certain, specific details. In other instances, well known methods, procedures, components, and circuitry have not been described in detail to avoid unnecessarily obscuring aspects of the embodiments. Accordingly, the scope of the present disclosure is defined by the appended claims rather than the foregoing description of embodiments.

When any of the appended claims are read to cover a purely software and/or firmware implementation, at least one of the elements in at least one example is hereby expressly defined to include a tangible, non-transitory medium such as a memory, DVD, CD, Blu-ray, and so on, storing the software and/or firmware.

What is claimed is:

1. A wireless headphone with user controls, the headphone comprising:

a left earcup comprising a left speaker driver and a left earcup housing;
and a right earcup comprising a right speaker driver and a right earcup housing;

a processor;

a microphone;

user controls comprising:

a voice assistant activator control;

a volume slider;

a play control slider;

a play-pause control;

non-volatile memory containing instructions that when executed direct the processor to:

maintain a wireless data connection to a computing device;

process sound received by the microphone when the voice assistant activator control is actuated;

commence a voice assistant recognition routine when sound received by the microphone matches a wake word associated with one of a plurality of voice assistants, where each of the plurality of voice assistants has a different wake word, listen for a voice command after the match to a wake word, provide sound captured by the microphone after the wake word match to the corresponding voice assistant, and perform an action based on instructions returned from the voice assistant;

update a current volume of the headphone to a higher volume when the volume slider receives a swipe in a first direction and then play an indicator sound at the current volume;

update a current volume of the headphone to a lower volume when the volume slider receives a swipe in a second direction opposite of the first direction and then play an indicator sound at the current volume;

skip to a next track of a current media content when the play control slider receives a swipe in a first direction;

skip to a previous track of the current media content when the play control slider receives a swipe in a second direction opposite of the first direction; and toggle playback of the current media content between play and pause states when the play-pause control is activated.

2. The headphone of claim 1, further comprising a phone call control, where the instructions further configuring the processor to answer an incoming call on the computing device when the phone call control is activated.